

1 CLAIMS

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3 1. A system comprising:

4 a source database storing a plurality of highly compressed content pieces;

5 and

6 a content player, coupled to the source database, including,

7 an interface to receive a subset of the plurality of highly compressed  
8 content pieces from the source database,

9 a storage device to store the subset,

10 a comparator to compare the subset to content and determine  
11 whether the content matches any of the plurality of highly compressed  
12 content pieces in the subset, and

13 a resolver to take particular action in response to the comparator  
14 indicating the content matches one of the plurality of highly compressed  
15 content pieces in the subset.

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17 2. A system as recited in claim 1, wherein the comparator is to compare  
18 the subset to content being played by the content player.

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20 3. A system as recited in claim 1, wherein the content player is coupled  
21 to the source database via the Internet.

1           4.    A system as recited in claim 1, wherein the plurality of highly  
2 compressed content pieces comprises a plurality of highly compressed audio  
3 pieces.

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5           5.    A system as recited in claim 1, wherein the plurality of highly  
6 compressed content pieces comprises a plurality of highly compressed video  
7 pieces.

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9           6.    A system as recited in claim 1, wherein the plurality of highly  
10 compressed content pieces comprises a plurality of highly compressed audio/video  
11 pieces.

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13          7.    A system as recited in claim 1, wherein the interface is further to  
14 subsequently communicate with the source database, retrieve a new subset of the  
15 plurality of highly compressed content pieces from the source database, and  
16 replace the subset in the storage device with the new subset.

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18          8.    A system as recited in claim 1, further comprising a content source  
19 coupled to the content player, and wherein the content player further comprises a  
20 compressor to receive content from the content source, generate a highly  
21 compressed content piece based on the received content, and add the generated  
22 highly compressed content piece to the subset in the storage device.

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1           **9.**     A system as recited in claim 1, wherein the storage device is further  
2 to store a plurality of licenses identifying content that a user of the content player  
3 is authorized to playback, and wherein the particular action comprises the resolver  
4 checking whether one of the plurality of licenses corresponds to the content.

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6           **10.**    A system as recited in claim 9, wherein each of the plurality of  
7 highly compressed content pieces in the subset further indicates whether one of the  
8 plurality of licenses is required for playback of the content.

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10          **11.**    A system as recited in claim 1, wherein the storage device is further  
11 to store the content.

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13          **12.**    A system as recited in claim 1, further comprising a content source,  
14 coupled to the content player, from which the content is received.

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16          **13.**    A system as recited in claim 12, wherein the content player receives  
17 the content from the content source in its entirety before playback of the content  
18 begins.

1           14. A system as recited in claim 1, wherein the comparator is to  
2 determine whether the content matches any of the plurality of highly compressed  
3 content pieces in the subset by comparing a first set of feature values associated  
4 with each of the plurality of highly compressed content pieces with a second set of  
5 feature values associated with the content, and checking whether at least a  
6 threshold number of the first set of feature values is within threshold distance of  
7 the second set of feature values.

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9           15. A system as recited in claim 14, wherein the first set of feature  
10 values and the second set of feature values each comprises a set of audio energy  
11 features.

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13           16. A system comprising:  
14 a memory to store one or more highly compressed content pieces; and  
15 a comparator, coupled to the memory, to compare the one or more highly  
16 compressed content pieces to content at the system and to determine whether the  
17 content matches at least one of the one or more highly compressed content pieces.

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19           17. A system as recited in claim 16, wherein the content at the system  
20 comprises content being played by the system.  
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1           **18.**    A system as recited in claim 16, further comprising a resolver,  
2 coupled to the comparator, to take a particular action in response to the comparator  
3 indicating the content matches one of the plurality of highly compressed content  
4 pieces in the subset.

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6           **19.**    A system as recited in claim 18, wherein the particular action  
7 comprises checking to see whether the system has a valid license for the content.

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9           **20.**    A system as recited in claim 16, wherein the memory is further to  
10 store the content.

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12           **21.**    A system as recited in claim 16, further comprising a playback  
13 controller, coupled to the memory, to receive the content from an external source.

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15           **22.**    A system as recited in claim 21, wherein the external source  
16 comprises a CD.

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18           **23.**    A system as recited in claim 16, further comprising an interface,  
19 coupled to the memory, to receive the one or more highly compressed content  
20 pieces from a compressed content source.

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22           **24.**    A system as recited in claim 16, further comprising a compressor,  
23 coupled to the memory, to receive content and generate the one or more highly  
24 compressed content pieces.

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1           25.    A system as recited in claim 16, wherein the comparator is to  
2 determine whether the content matches any of the plurality of highly compressed  
3 content pieces in the subset by comparing a first set of feature values associated  
4 with each of the plurality of highly compressed content pieces with a second set of  
5 feature values associated with the content, and checking whether at least a  
6 threshold number of the first set of feature values is within threshold distance of  
7 the second set of feature values.

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9           26.    A system as recited in claim 25, wherein the first set of feature  
10 values and the second set of feature values each comprises a set of audio energy  
11 features.

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13           27.    A system as recited in claim 16, wherein the system comprises a  
14 portable music player.

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16           28.    A system as recited in claim 16, wherein each of the one or more  
17 highly compressed content pieces further indicates whether a license is required  
18 for playback of the corresponding content.

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20           29.    A method comprising:  
21            comparing a portion of media content to a set of one or more highly  
22 compressed pieces of content;  
23            determining whether the portion of media content matches any of the set of  
24 highly compressed pieces; and  
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1 taking a programmed action if the portion of media content matches any of  
2 the set of highly compressed pieces.

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4 **30.** A method as recited in claim 29, wherein the portion of media  
5 content comprises a song.

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7 **31.** A method as recited in claim 29, wherein the portion of media  
8 content comprises a video clip.

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10 **32.** A method as recited in claim 29, further comprising performing the  
11 comparing while the portion of media content is being played.

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13 **33.** A method as recited in claim 29, further comprising performing the  
14 comparing while the portion of media content is being downloaded from a content  
15 source.

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17 **34.** A method as recited in claim 29, further comprising receiving the set  
18 of highly compressed pieces from a highly compressed content piece source.

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20 **35.** A method as recited in claim 34, further comprising subsequently  
21 receiving a new set of highly compressed pieces from the highly compressed  
22 content piece source, and replacing the set with the new subset.

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24 **36.** A method as recited in claim 29, further comprising:  
25 receiving content from a content source;

1 generating a highly compressed piece based on the received content; and  
2 adding the generated highly compressed piece to the set of highly  
3 compressed pieces.

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5 37. A method as recited in claim 29, wherein the programmed action  
6 comprises checking whether one of a plurality of licenses maintained at a content  
7 player performing the comparing corresponds to the portion of media content.

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9 38. A method as recited in claim 29, wherein the determining  
10 comprises:

11 comparing a first set of feature values associated with each of the plurality  
12 of highly compressed pieces with a second set of feature values associated with  
13 the portion of media content; and

14 checking whether at least a threshold number of the first set of feature  
15 values is within threshold distance of the second set of feature values.

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17 39. A method as recited in claim 38, wherein the first set of feature  
18 values and the second set of feature values each comprises a set of audio energy  
19 features.

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21 40. One or more computer-readable memories containing a computer  
22 program that is executable by a processor to perform a method comprising:

23 comparing a portion of media content to a set of one or more highly  
24 compressed pieces of content;

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1 determining whether the portion of media content matches any of the set of  
2 highly compressed pieces; and

3 taking a programmed action if the portion of media content matches any of  
4 the set of highly compressed pieces.

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6 **41.** A system comprising:

7 means for storing a set of highly compressed content pieces;

8 means for determining whether the portion of media content matches any of  
9 the set of highly compressed content pieces; and

10 means for taking a particular action if the portion of media content matches  
11 any of the set of highly compressed content pieces.

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13 **42.** A system as recited in claim 41, further comprising means for  
14 receiving an update set of highly compressed content pieces and replacing the set  
15 of highly compressed content pieces with the update set of highly compressed  
16 content pieces.

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18 **43.** A system as recited in claim 41, further comprising means for  
19 receiving the set of highly compressed content pieces.

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21 **44.** A system as recited in claim 41, further comprising means for  
22 generating the set of highly compressed content pieces.

1           45.     A system as recited in claim 41, wherein the means for storing is  
2 further for storing the portion of media content.

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4           46.     One or more computer-readable media having stored thereon a  
5 plurality of instructions that, when executed by one or more processors of a  
6 computer, causes the one or more processors to perform acts including:

7                 checking whether a portion of media content matches a piece of highly  
8 compressed content, wherein the piece of highly compressed content cannot be  
9 played back to a user in an intelligible form;

10                allowing the portion of media content to be played back if the portion of  
11 media content does not match the piece of highly compressed content; and

12                taking a particular action if the portion of media content does match the  
13 piece of highly compressed content.

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15           47.     One or more computer-readable media as recited in claim 46,  
16 wherein the portion of media content includes one or more of audio content and  
17 video content.

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19           48.     One or more computer-readable media as recited in claim 46,  
20 wherein the plurality of instructions further cause the one or more processors to  
21 perform acts including receiving the piece of highly compressed content from a  
22 highly compressed content source.

1           **49.** One or more computer-readable media as recited in claim 48,  
2 wherein the plurality of instructions further cause the one or more processors to  
3 perform acts including subsequently receiving a new piece of highly compressed  
4 content from the highly compressed content source, and replacing the piece with  
5 the new piece.

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7           **50.** One or more computer-readable media as recited in claim 46,  
8 wherein the plurality of instructions further cause the one or more processors to  
9 perform acts including:

10           receiving content from a content source; and

11           generating the piece of highly compressed content based on the received  
12 content.

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14           **51.** One or more computer-readable media as recited in claim 46,  
15 wherein the checking comprises:

16           comparing a first set of feature values associated with the piece of highly  
17 compressed content with a second set of feature values associated with the portion  
18 of media content; and

19           checking whether at least a threshold number of the first set of feature  
20 values is within threshold distance of the second set of feature values.

21  
22           **52.** One or more computer-readable media as recited in claim 51,  
23 wherein the first set of feature values and the second set of feature values each  
24 comprises a set of audio energy features.

1           **53.** One or more computer-readable media having stored thereon a  
2 plurality of instructions that, when executed by one or more processors of a  
3 computer, causes the one or more processors to perform acts including:

4           receiving a portion of media content; and

5           generating a highly compressed content piece based on the portion of media  
6 content, wherein the piece of highly compressed content cannot be played back to  
7 a user in an intelligible form but can be compared to the portion of media content  
8 for equality with a high degree of accuracy.

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10           **54.** One or more computer-readable media as recited in claim 53,  
11 wherein the generating comprises extracting a plurality of features from the media  
12 content and selecting groups of the extracted features as the highly compressed  
13 piece of content.

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15           **55.** One or more computer-readable media as recited in claim 54,  
16 wherein the plurality of features comprise a plurality of energy features.

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18           **56.** One or more computer-readable media as recited in claim 53,  
19 wherein the plurality of instructions further cause the one or more processors to  
20 perform acts including communicating the highly compressed content piece to a  
21 content player.

1           57. One or more computer-readable media as recited in claim 53,  
2 wherein the plurality of instructions further cause the one or more processors to  
3 perform acts including saving the highly compressed content piece in a local  
4 storage device of a content player for subsequent comparisons to media content to  
5 be played back at the content player.

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